

Research Article

A histopathological study of non-malignant breast lesions

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Received: 18 August 2015

Revised: 21 August 2015

Accepted: 07 September 2015

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ABSTRACT

Background: The study was undertaken to know the various histopathological patterns of non-malignant breast lesions and its frequency of occurrence. A wide spectrum of malignant, benign and non-neoplastic diseases can affect the breast. Though, the carcinoma of the breast is fairly common, non-malignant breast lesions constitute a separate group which poses diagnostic difficulty to both clinicians and pathologists as it simulates malignancy clinically, morphologically and microscopically.

Methods: The current study was carried out in a tertiary care institute in West Maharashtra, India. Cases included in this study were of non-malignant breast lesions which included excisional and incisional biopsies and lumpectomy specimens from surgical department at tertiary hospital.

Results: 540 non-malignant breast lesions were studied out of total 759 breast biopsies, in the period of six years. The incidence of non-malignant breast lesions was found to be 71.15% of all breast lesions. The commonest non-malignant breast lesion was fibroadenoma, seen in 216 (40%) cases; followed by fibrocystic disease, seen in 177 (32.78%) cases.

Conclusions: Thus, we came to a conclusion that benign breast lesions are complex of inflammatory lesions, tumour and pseudo tumour like hamartoma. Thus even if they may cause lump or not, the breast lesions remain enigma.

Keywords: Breast, Biopsy, Non-malignant

INTRODUCTION

As non-malignant and malignant breast lesions mimic each other, diagnostic accuracy is mandatory to prevent unnecessary mutilating surgery. Malignant diseases will necessitate loss of breasts, while benign conditions will dictate its preservation. The fact that loss of breast is so traumatizing to feminine psychae, that it makes diagnostic precision an utter necessity.

Many pathologists divide the breast lesions into two main categories as “benign” and “malignant”. But these non-specific terms mean very little. Especially, the term “benign” is particularly objectionable, as it ignores the

fact that there are many benign breast lesions that are neoplasms and among neoplasms, there are several that are very important which predispose to breast carcinoma. So the term “non-malignant” appears to be more accurate than “benign”.

This attracted us to study “non-malignant lesions of breast”. Beside clinical examination, use of open biopsy, FNAC, mammography and USG have increased diagnostic yield. Endocrinology, immunology and nuclear medicine are recent advances; but are not universally available. So again, histopathological examination appears promising.

METHODS

The present study was carried out in a Department of Pathology at West Maharashtra, India. This six year retro prospective study comprised 540 cases out of total 759 breast biopsies. The consent was taken from the ethical committee of the institute prior to the commencement of study.

The gross surgical specimens were mainly excisional and incisional biopsies, lumpectomies and frozen sections. Multiple paraffin blocks from tissue fixed in 10% formalin were processed.

In each case, the clinicopathological data was collected from indoor papers and from biopsy requisition forms. The gross appearance of specimens and the histopathological reports were recorded as per proforma. The histological typing of lesions was done according to WHO classification.

RESULTS

540 non-malignant breast lesions were studied out of total 759 breast biopsies, in the period of six years. The incidence of non-malignant breast lesions was found to be 71.15% of all breast lesions. The commonest non-

malignant breast lesion was fibroadenoma, seen in 216 (40%) cases; followed by fibrocystic disease, seen in 177 (32.78%) cases. The other non-malignant lesions studied by us are shown in Table No. 1.

Females were more affected (97.78%) than males (2.22%). The maximum number of cases (237) was from 3rd decade of life (43.88%). Females of reproductive age group (15-40 years) were more affected (88.88%). Gynecomastia constituted the most common male breast lesion, seen in all 12 cases.

Lesions were more commonly seen in the multiparous women (47.22%) than primiparous (15.74%) and nulliparous women (31.48%). The remainder cases were males.

Unilateral lesions (94.44%) were more common than bilateral (5.56%). Right breast was more commonly affected (52.22%) than left (42.22%). Most common site of occurrence was upper and outer quadrant of the breast (38.33%).

Fibroadenoma was most commonly seen in the nulliparous women (61.82%); while all other lesions, mainly the fibrocystic disease of the breast (71.84%), were more common among the multiparous women.

Table 1: Frequency distribution of histopathological patterns of various non-malignant breast lesions.

Name of the lesion	Total cases	Percentage
Fibroadenoma	216	40
Fibrocystic disease	177	32.87
Fibroadenoma with fibrocystic disease	51	9.45
Non-specific mastitis with breast abscess	21	3.88
Gynaecomastia	12	2.23
Granulomatous mastitis	12	2.23
Tuberculosis mastitis	9	1.67
Lactating adenoma	9	1.67
Breast abscess	9	1.67
Galactocoele	9	1.67
Duct papilloma	6	1.10
Tubular adenoma	3	0.55
Cystosarcoma phyllodes	3	0.55
Lipoma	2	0.36
Hamartoma	1	0.18
Total	540	100

Table 2: Comparison of frequency distribution of histopathological patterns of various non-malignant breast lesions.

Lesions	Saltzstein & Pallock ³	Oluwale & Freeman ¹	Haque et al ¹⁵	Thomas and Robertson ¹⁶	Khanna ²	Raja and Narayan ⁴	Present study
Fibroadenoma	26(26%)	98 (48.51%)	55 (52.88%)	112 (22.4%)	180 (72%)	679 (49.93%)	216 (40%)
Fibrocystic disease	50 (50%)	48 (23.56%)	23 (22.12%)	264 (52.8%)	25 (10%)	554 (40.53%)	177 (32.78%)
Non-sp.* Mastitis + breast abscess	3 (3%)	12 (5.63%)	8 (7.69%)	11 (2.20%)	-	76 (5.58%)	21 (3.88%)
Fibroadenoma+fibrocystic disease	-	-	-	-	-	-	51 (9.45%)
Tuberculous mastitis	-	-	2 (1.93%)	-	-	16 (1.17%)	9 (1.67%)
Gynaecomastia	-	-	9 (8.66%)	28 (5.60%)	12 (4.80%)	-	12 (2.23%)
Lactating adenoid	-	-	-	-	-	-	9 (1.67%)
Tubulae adenoma	-	-	-	-	-	-	3 (0.55%)
Phyllodes tumour	-	1 (0.49%)	-	5 (1%)	11 (4.40%)	-	3 (0.55%)
Granulomatous mastitis	-	3 (1.88%)	-	-	-	-	12 (2.23%)
Breast abscess	3 (3%)	-	-	-	-	-	9 (1.67%)
Galactocoele	-	-	1 (0.96%)	1 (0.2%)	-	-	9 (1.67%)
Lipoma	7 (7%)	4 (1.98%)	-	5 (1%)	-	-	2 (0.36%)
Mammary duct ectasia	-	1 (0.49%)	3 (2.88%)	40 (8%)	-	-	-
Duct papilloma	12 (12%)	10 (5.10%)	-	17 (3.40%)	6 (2.40%)	13 (0.95%)	6 (1.10%)
Fat necrosis	1 (1%)	6 (2.97%)	3 (2.88%)	7 (1.40%)	-	-	-
Adenosis	-	17 (9.45%)	-	-	13 (5.20%)	8 (0.58%)	-
Hamartoma	-	-	-	-	-	-	1 (0.18%)
Others	1 (1%)	9 (5.10%)	-	10 (2%)	3 (1.20%)	16 (1.17%)	-
Total	100 (100%)	202 (100%)	104 (100%)	500 (100%)	250 (100%)	1362 (100%)	540 (100%)

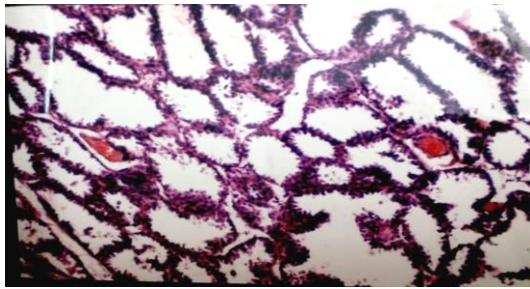


Figure 1: Photomicrograph of lactating adenoma (H & E, X100).

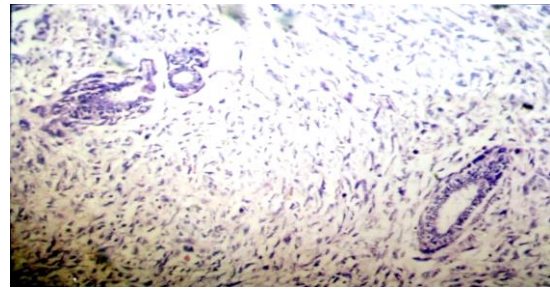


Figure 2: Photomicrograph of benign phyllodes tumour (H & E, X100).

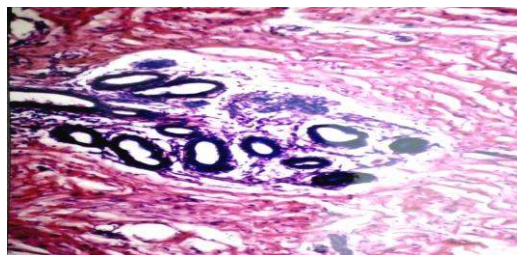


Figure 3: Photomicrograph of hamartoma (H & E, X100).

DISCUSSION

Incidence of non-malignant and malignant breast lesions: In the present study, a higher incidence of non-malignant breast lesions (71.15%) was noted than malignant lesions (28.85%). The findings are comparable with that of Oluwale and Freeman.¹

Sex distribution: In the study carried out by Khanna² et al, the incidence of non-malignant breast lesions was higher in females (95.20%) than males (4.80%). Our findings were analogous with them.

Histopathological diagnosis: Various histopathological diagnoses in our study and their comparison with the studies of others are mentioned in Table No. 2. Fibroadenoma had the highest incidence in our study among the non-malignant breast lesions, which is comparable with the study of Saltzstein and Pallock.³

We observed that fibrocystic diseases of the breast were most commonly seen in the 3rd decade of life. Raja and Narayan⁴ also found the same. Fibroadenoma was most commonly seen in the nulliparous women which is comparable with the findings of Cole and Elwood.⁵

Fibrocystic diseases of the breast were more commonly seen in upper and outer quadrant of the breast and in multiparous women. These findings are fairly similar with those of Oluwale and Freeman¹ and Cole and Elwood⁵ respectively.

Non-specific breast abscess was present in multiparous women which was comparable with Leach et al.⁶

The incidence of tuberculosis mastitis in our study was 1.67%. Donya Farrokh⁷ also quote that breast is the rare site for tubercular infections and found the similar incidence. The overall incidence of tuberculosis mastitis in developing countries constitute approximately 3%.⁸

We observed that Phyllodes tumours were more commonly seen in the women in their 5th decade of life. The findings are comparable with that of Choudhari and Khanna.⁹

The mean age of presentation of lactating adenomas was found to be 27 years. O' Hara and Page¹⁰ and James¹¹ et al noted the similar incidences.

Tubular adenomas were more commonly seen in the patients of 11-30 years of age. This finding is comparable to that of O' Hara and Page¹⁰ and James¹¹ et al.

Haggensen et al¹² observed that the galactocoele is affecting mainly in the females of the reproductive age group. In the present study also, all the females were in the age group of 21-30 years and all of them were

lactating. Galactocoele is mostly due to inspissated milk in women in whom lactation has been established and abruptly terminated.

Lipoma of the breast is a rare lesion. It affects the women with mean age of 47 years.¹³ The mean age of lipoma of the breast in our study was 45 years.

The unusual case of hamartoma of the breast was reported in our study, constituting 0.18% of all the cases. Microscopically, it was a well circumscribed mass of mammary ducts and lobules containing various amount of fibrous and adipose tissue. Smooth muscle and myxoid areas were also noted. Margo and Bisceglia¹⁴ studied a case of hamartoma.

CONCLUSION

Thus, we came to a conclusion that benign breast lesions are complex of inflammatory lesions, tumour and pseudotumour like hamartoma; condition associated with normal events in reproductive age of female like pregnancy (lactational adenoma) and even in normal month to month changes like menstruation, though they do not cause palpable breast lesion. Thus even if they may cause lump or not, the breast lesions remain enigma.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Pudale S, Tonape SD. A histopathological study of non-malignant breast lesions. *Int J Res Med Sci* 2015;3:2672-6.